California Monthly Climate Summary
April 2008

Weather Highlights

April was an almost average-warmth, dry month for California. According to the Western Region Climate Center's California Climate Tracker, the monthly average temperature was 53.8°F which is 0.5°F below the long-term average temperature for the state. With a statewide average of 0.25 inches, precipitation for April was 16% of the long term average. Out of the 114 years of record in the California Climate Tracker, April 2008 ranks as the 5th driest.

April started with a series of weak fronts passing quickly over the state keeping temperatures below average. However, only one system produced light precipitation. During the second week, another weak cold front passed over the northern part of the state bringing light rain and snow with it. By midweek, a high pressure system built in and brought temperatures up. High temperatures well above normal over the weekend broke some records as the high pressure system remained in place. Temperatures finally started dropping Tuesday of the following week as a low pressure system dislodged the high. Daytime highs on Tuesday were 15 to 20°F lower than Monday temperatures in some places. A succeeding pattern of highs and lows continued for the rest of the week resulting in only isolated showers. On April 21st, a cold air mass over the Sacramento Valley caused temperatures to fall below freezing in some Valley locations. Some damage to the walnut crop was caused by this event. April finished up warm and dry with above normal temperatures across the state including values above 100°F in the southeast part of the state.

Preliminary records, reported on the National Weather Service Record Event Report, show that statewide there were 95 temperature records tied or broken and 8 precipitation records tied and broken for the month. Of the 95 temperature records, 80 were for new high maximums. Four of these new highs were recorded at John Wayne Airport which has been keeping records only since 1999. Many high temperature records were set on April 12th and 13th. Modesto broke a 1962 record of 91°F with a new high of 92°F. Los Angeles Airport's 91°F on the 12th broke the 90°F record set in 1947. Oxnard broke their 1980 April 12th high temperature record of 85°F by 10 degrees. They followed up on April 13th by breaking a1958 record of 86°F with a high temperature of 94°F. As for precipitation records, Eureka recorded a trace of snow on April 20th. The other 7 records all relate to record dryness. Bishop, Needles and Daggett all tied precipitation records by recording no precipitation for April. All of these sites have experienced dry Aprils before. In the Central Valley, downtown Sacramento, Stockton, Modesto, and Redding all recorded their driest March/April periods ever. Sacramento's record extends back to 1877.

For the California Data Exchange Center's (CDEC) network of temperature gages used in this report, 184 stations recorded a minimum temperature below freezing.

Statewide extremes from the CDEC network of temperature gages are shown below. Also shown are the monthly average extremes from the CIMIS network. A table of regional average minimum, mean, and maximum temperatures from the CDEC and CIMIS networks is also shown.

Precipitation in April was hard to find. The largest amount of precipitation recorded in the CDEC precipitation gages for March 2008 was Gasquet Ranger Station on the North Coast with 4.64 inches. This is 72% of the average monthly precipitation at this station. At the other end of the spectrum, 41 stations recorded no rain for the month. For the March/April pair of months, many locations set new records for low precipitation amounts including the Northern California 8-station index which recorded only 2.3 inches. The previous record was in water year 1956 when 3.2 inches fell. Average for this time period is 10.8 inches. For the CIMIS network, Five Points in Fresno County topped the precipitation charts with 2.87 inches for the month. Thirty-six stations in the CIMIS network recorded zero for precipitation for the month. The 8-Station Index for northern California precipitation recorded only 0.67 inches in April with six days showing precipitation. Four of these days only recorded 0.01 inches. On average 3.9 inches of precipitation is recorded for the 8-Station index in April. This is the 6th driest April in the 8-Station index period of record. Statewide, the average precipitation for April was 21% of the long-term average based on the California Data Exchange Center (CDEC) gages. Precipitation percentages by region from the CDEC gages are shown in a table at the end of this document.

In April, the Drought Monitor showed expansion of abnormal dryness across most of the state and the introduction of D1 conditions across the foothills of the Sierra Nevada. The D2 condition in the Tulare Basin was expanded during the month as well. The maps for California for April 1, 2008 and April 29, 2008 are shown below. The Drought Monitor maps can be found on the National Drought Mitigation Center's (NDMC) website http://drought.unl.edu/dm/. These maps are largely a reflection of precipitation and soil moisture deficit estimates. As of April 29, 2008, the California depiction has 7.3% of the state drought free, 47%listed in the D0 – Abnormally Dry, 34.4% listed in the D1 – Moderate Drought, and 9.3% listed in the D2 – Severe Drought category. Maps are updated weekly.

The U.S. Seasonal Drought Outlook for May through July from NOAA depicts California with persisting or developing drought conditions across most of the state. Updates are provided twice per month. Maps and information can be found at http://www.cpc.noaa.gov/products/expert_assessment/seasonal_drought.html.

The Bulletin 120 is available online. This document reviews snow conditions in California and provides a forecast for April through July runoff for 22 basins. For the May 2008 edition, the largest percent of average forecast runoff is in the Mono Basin on the east side of the Sierra with 88%. The lowest forecast runoff is the Cosumnes Basin with only 49% of average. Close behind is the Tahoe Basin with only 51% of

average. Copies of basin summary maps for the April and May Bulletin 120 are provided at the end of the summary. The Bulletin 120 is issued 4 times a year in February, March, April and May.

Outlooks for the water year 2008 water supply index categories can be found in the executive update of hydrologic conditions. As of the May 8, 2008 update, the median Sacramento Basin outlook was critical and the median outlook for the San Joaquin Basin was dry. Statewide water-year runoff is expected to be 60% of average this year. Water supply information for California can be found at http://cdec.water.ca.gov/water_supply.html A Historical listing of water year categories for both basins can be found at http://cdec.water.ca.gov/cgi-progs/iodir/WSIHIST.

ENSO Conditions and Long-Range Outlooks

The El Niño/Southern Oscillation (ENSO) is being classified as a La Niña pattern. Equatorial sea surface temperature anomalies for the tropical Pacific for April fluctuated between 0°C and -0.8°C. The February through April 3-month running mean of the Ocean Niño Index was -1.1 which is the 8th consecutive 3-month running mean value to be below the threshold value of -0.5°C. The largest negative value in the series is the Dec/Jan/Feb value of -1.5. Both statistical and dynamical models forecast La Niña conditions continuing with ENSO neutral conditions returning for the second half of the year. More information can be found at the Climate Prediction Center's web site: http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/ Updates are posted weekly. The latest three month outlook (May through July) from NOAA indicates above average temperatures for California with the exception of coastal locations. For precipitation, below average conditions are forecast for most of the state with the exception of the south coast and southeast desert. Outlook plots and discussions can be fount at http://www.wrcc.dri.edu/longrang/. General weather information of interest can be found at http://www.noaawatch.gov/. For anomaly information please see http://www.wrcc.dri.edu/anom/cal_anom.html.

Agricultural Data

April continued the expansion of agricultural activity as spring developed in California. Winter forage crops were cut for silage. Alfalfa cutting continued. Rice fields were prepared and planted. Mustard seed and cilantro seed fields were in bloom. Grape vines were leafing out. Fruit trees continued their bloom and were being pollinated by bees. Normal fruit set was expected for apples, cherries, pears, pomegranates, jujubes and prunes. Olive trees began their bloom cycle. Almonds were developing well throughout the state. Walnuts in some areas were damaged by freezing temperatures during the fourth week of the month. Boysenberries and blueberry bushes were in bloom too. Vegetable fields were weeded, irrigated and treated for mildew, insects and weeds. The lack of rain in April brought deterioration of pasture conditions throughout the state. Supplemental feeding was again required. For further crop and livestock information see http://www.nass.usda.gov/index.asp

Other Climate Summaries
California Climate Tracker (new product of Western Region Climate Center)
Golden Gate Weather Service Climate Summary
NOAA Monthly State of the Climate Report

Statewide Extremes (CDEC)
High Temperature – 103°F
(Buttercup, Cahuilla, Squaw Creek, Colorado River Desert)
Low Temperature – 0°F (Charlotte Lake, Tulare)
High Precipitation – 4.63 inches (Gasquet Ranger Station, North Coast)
Low Precipitation – 0 inches (41 stations)

Statewide Extremes (CIMIS)
High Average Maximum Temperature –87.7^{0}F (UC San Luis, Imperial County)
Low Average Minimum Temperature – 23.8^{0}F (Tulelake FS, Siskiyou County)
High Precipitation – 2.87 inches (Five Points, Fresno County)
Low Precipitation – 0 inches (36 stations)

Statewide Precipitation Statistics

Hydrologic Region	Region Weight	Basin Reporting			Stations Reporting			% of Historic Average	
		Basins	Apr	Oct-Apr	Stations	Apr	Oct-Apr	Apr	Oct-Apr
North Coast	0.27	5	5	5	17	9	9	50.5%	93%
SF Bay	0.03	3	3	3	6	6	6	8.9%	88%
Central Coast	0.06	5	5	4	10	9	8	14.4%	92%
South Coast	0.06	5	5	5	15	11	10	2.7%	82%
Sacramento River	0.26	10	9	9	43	37	31	18.7%	78%
San Joaquin River	0.12	8	7	7	27	21	21	3.8%	74%
Tulare Lake	0.07	5	5	5	27	26	24	2.7%	78%
North Lahontan	0.04	6	6	6	14	9	9	18.2%	76%
South Lahontan	0.06	5	4	4	14	9	8	0.3%	84%
Colorado River	0.03	2	2	2	6	5	5	0%	104%
Statewide Weighted Average	1	54	51	50	179	142	131	21.2 %	84 %

Statewide Mean Temperature Data by Hydrologic Region (degrees F)

Hydrologic Region	No. Stations	Minimum	Average	Maximum
North Coast	31	26.5	47.1	76.5
SF Bay	19	36.8	53.7	75.7
Central Coast	35	37.6	54.2	75.5
South Coast	64	29.0	54.8	88.8
Sacramento	90	26.1	49.5	77.8
San Joaquin	74	30.6	51.2	75.6
Tulare Lake	15	21.6	45.0	72.1
North Lahontan	30	16.0	37.9	62.2
South Lahontan	19	27.7	49.1	71.8
Colorado River Desert	23	49.5	69.4	89.4
Statewide Weighted Average	400	28.0	49.6	76.6

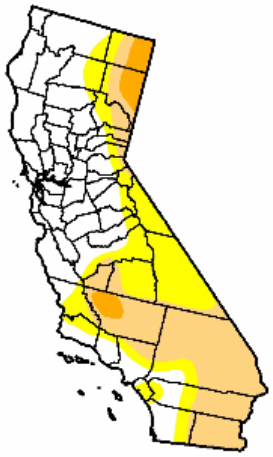
U.S. Drought Monitor

April 1, 2008
Valid 7 a.m. EST

California

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	44.5	55.5	31.6	3.8	0.0	0.0
Last Week (03/25/2008 map)	44.5	55.5	30.1	3.9	0.0	0.0
3 Months Ago (01/08/2008 map)	11.4	88.6	79.8	31.6	0.0	0.0
Start of Calendar Year (01/01/2008 map)	8.9	91.1	84.7	58.0	14.6	0.0
Start of Water Year (10/02/2007 map)	0.0	100.0	92.6	64.6	33.8	0.0
One Year Ago (04/03/2007 map)	8.5	91.5	63.0	33.0	21.3	0.0



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements

http://drought.unl.edu/dm

Released Thursday, April 3, 2008
Author: Rich Tinker, CPC/NOAA

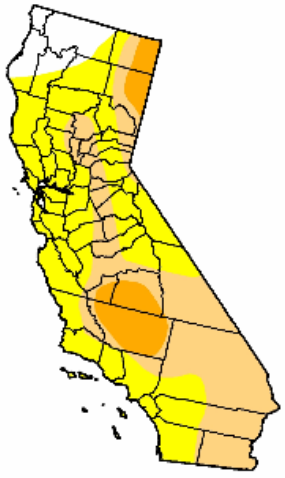
U.S. Drought Monitor

April 29, 2008
Valid 7 a.m. EST

California

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	7.3	92.7	45.7	9.3	0.0	0.0
Last Week (04/22/2008 map)	24.6	75.4	39.6	5.5	0.0	0.0
3 Months Ago (02/05/2008 map)	18.2	81.8	36.6	14.1	0.0	0.0
Start of Calendar Year (01/01/2008 map)	8.9	91.1	84.7	58.0	14.6	0.0
Start of Water Year (10/02/2007 map)	0.0	100.0	92.6	64.6	33.8	0.0
One Year Ago (05/01/2007 map)	7.5	92.5	82.4	51.6	28.7	0.0



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http://drought.unl.edu/dm

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Author: R. Heim/L. Love-Brotak, NOAA/NESDIS/NCDC

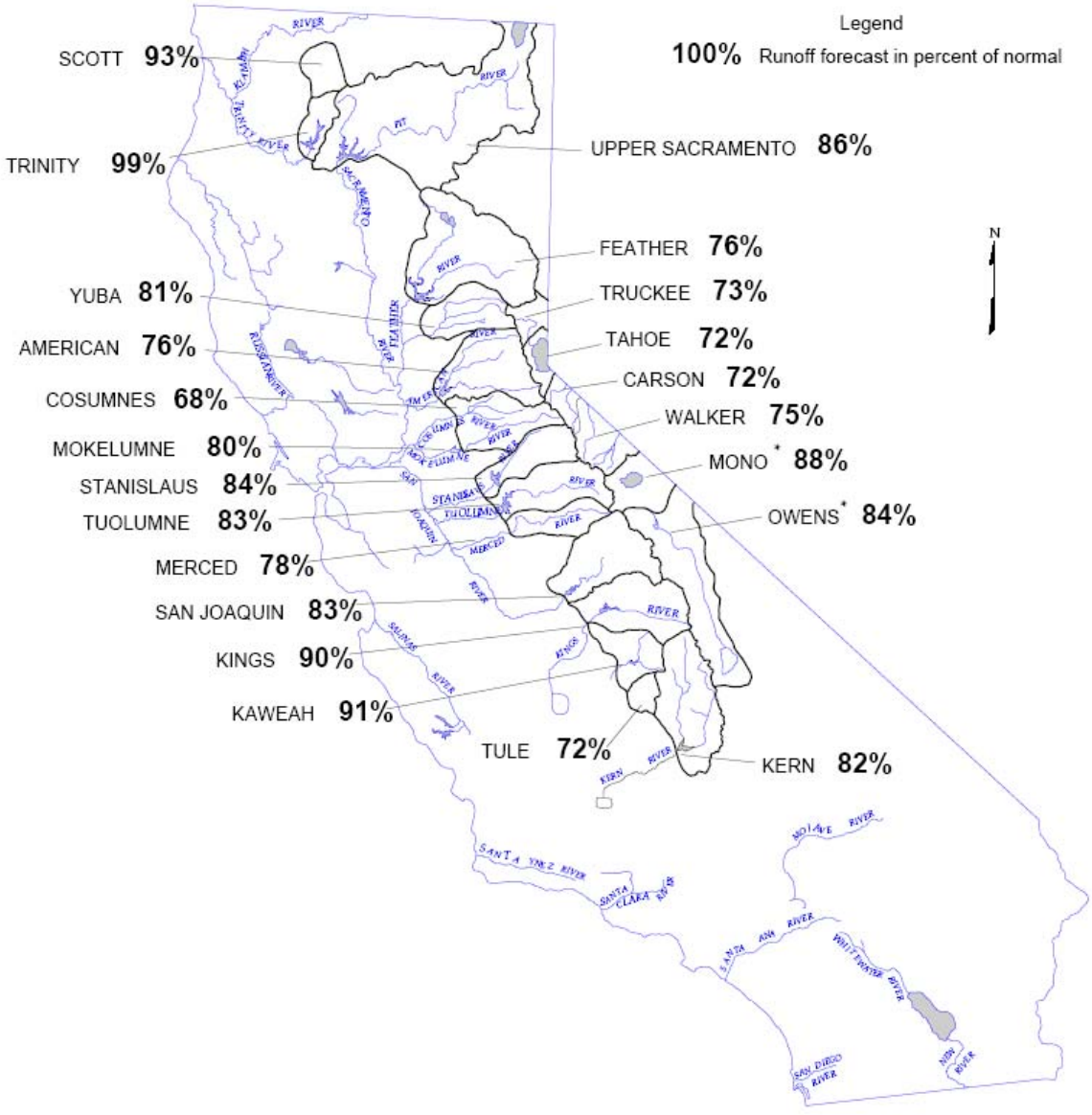
DEPARTMENT OF WATER RESOURCES

CALIFORNIA COOPERATIVE SNOW SURVEYS

FORECAST OF APRIL – JULY

UNIMPAIRED SNOWMELT RUNOFF

April 1, 2008



* FORECAST BY DEPARTMENT OF WATER AND POWER, CITY OF LOS ANGELES

Reprinted from DWR Bulletin 120 April 2008

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FORECAST OF APRIL – JULY

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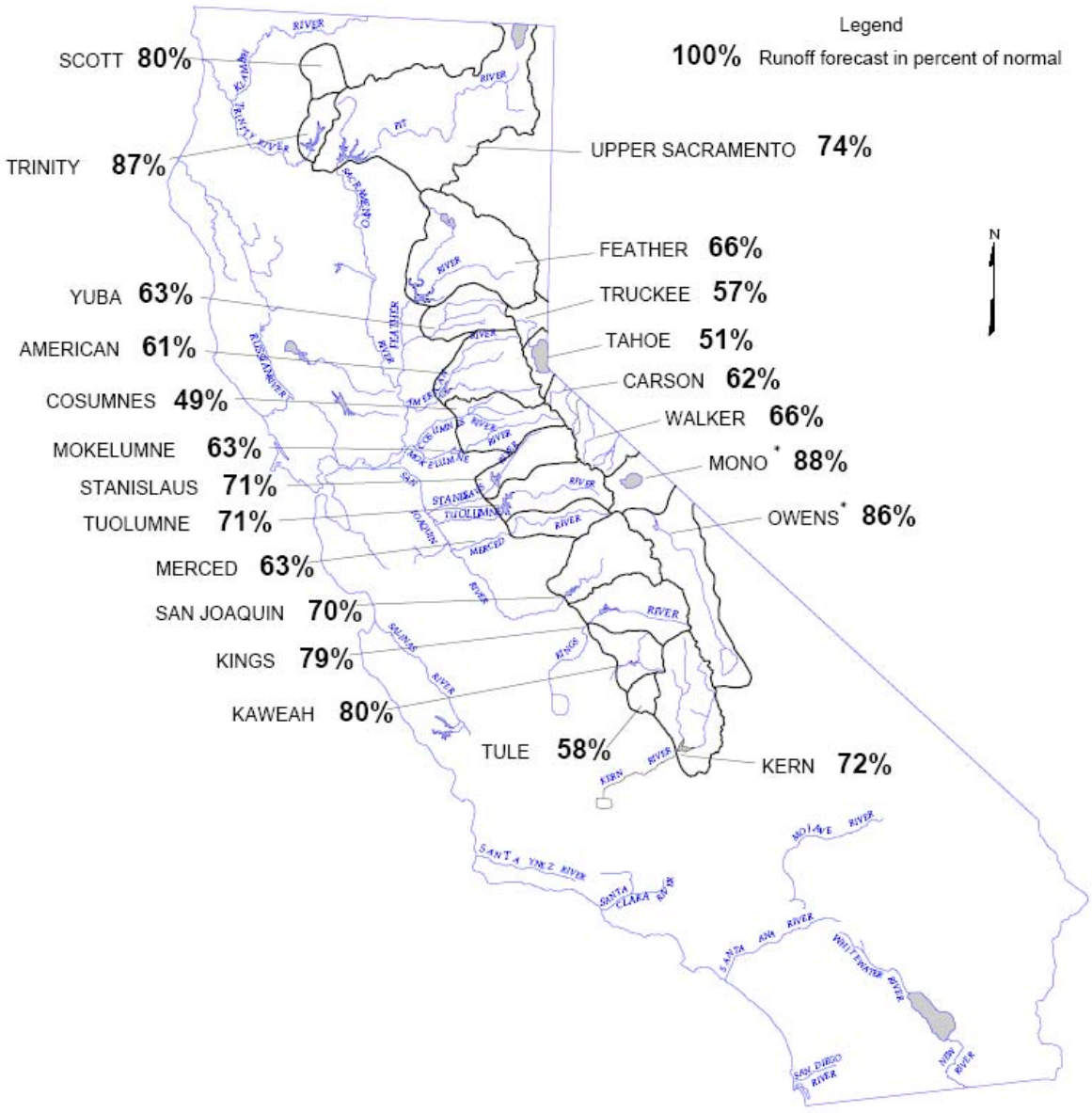
May 1, 2008



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